NATURAL RESOURCES CONSERVATION SERVICE
PACIFIC BASIN AREA
CONSERVATION PRACTICE STANDARD

ACCESS ROAD

(Meters, Feet)
CODE 560

DEFINITION

A travelway (road) for vehicles constructed as part of a conservation plan.

PURPOSE

- To provide a fixed route for travel for moving livestock, produce, equipment, and supplies; and,
- to provide access for proper operation, maintenance and management of conservation enterprises while controlling runoff to prevent erosion and maintain or improve water quality.

CONDITIONS WHERE PRACTICE APPLIES

Where access is needed from a private or public road or highway to a conservation enterprise or measure, or where travelways are needed in a planned land use area.

DESIGN CRITERIA

Access roads shall be designed to serve the enterprise or planned use with the expected vehicular or equipment traffic. The type of vehicle or equipment, speed, loads, climatic, and other conditions under which vehicles and equipment are expected to operate need to be considered.

Visual resources and environmental values shall be considered in planning and designing the road system. The impacts to water and air quality shall be addressed during the planning of the practice.

Access Roads range from seldom used trails to all-weather roads heavily used by the public built to very high standards. Some trails facilitate control of forest fires, are used for logging, serve as access to remote areas for recreation, or are used for maintenance of facilities.

Where general public use is anticipated, roads shall be designed to meet applicable federal, state or local criteria.

Sound engineering practices shall be followed to insure that the road meets the requirements of its intended use and that maintenance requirements are in line with operating budgets.

Dead end roads shall be provided with a turnaround. In some areas turnarounds may also be desirable for stream, lake, recreation, or other access purposes.

Parking space as needed shall be provided to keep vehicles off the road or from being parked in undesirable locations.

Location. Roads shall be located to: serve the purpose intended; to facilitate the control and disposal of water; to control or reduce erosion; to make the best use of the topographic features; and to include scenic vistas where possible. The roads should generally follow natural contours and slopes to minimize the disturbance of drainage patterns. Roads should be located where they can be maintained and so water management problems are not created. To reduce pollution, roads should not be located too near watercourses.

Alignment. The gradient, vertical and horizontal alignment shall be adapted to the intensity of use, mode of travel, and the level of development.

Grades normally should not exceed 10 percent except for short lengths, but maximum grades of 20 percent or more may be used if necessary for special uses.

Width. The minimum width of the roadbed is 4.5 meters (14.8 ft) for one-way traffic and 6 meters (20 ft) for two-way traffic. Single-lane logging or special purpose roads have a

Conservation Practice Standards are reviewed periodically and updated if needed. To obtain the current version of this Standard, contact the Natural Resources Conservation Service.

minimum width of 3.1 meters (10 ft), with greater widths at curves and turnouts. The two-way traffic width shall be increased approximately 1.2 meters (4 ft) for trailer traffic.

The minimum tread width is 3.1 meters (10 ft) for one-way traffic and 4.5 meters (14.8 ft) for two-way traffic. The tread width for two-way traffic shall be increased 1-2 meters (4 ft) for trailer traffic.

The minimum shoulder width is 0.6 meters (2 ft) on each side of the tread width.

Where turnouts are used, road width shall be increased to a minimum of 6.1 meters (20 ft) for a length of 9.1 meters (30 ft).

Side Slopes. All cuts and fills shall have side slopes designed to be stable for the particular site condition. Under no conditions shall earthen side slopes exceed two horizontal to each vertical, (2:1).

Areas with geological conditions and soils subject to slides shall be avoided or treated to prevent slides.

Drainage. The type of drainage structure(s) used will depend on the type of enterprise and the runoff conditions. Engineering Field Handbook (EFH) Chapter 2, or TR-55 shall be used for design hydrology except where water breaks or bars are installed frequently enough to keep contributing drainage areas less than 0.2 hectares (0.5 acres). Culverts, Pacific Basin standard, Underground Outlet (620), grade dips (to direct overtopping to safe outlets), or open topped culverts, shall be provided at all natural drainage ways. The capacity and design shall be consistent with sound engineering principles and shall be adequate for the class of vehicle, type of road, the level of development, or use.

Roadside ditches shall be adequate to provide surface drainage for the roadway and be deep enough to serve as outlets for subsurface drainage (if required by subsurface conditions). Channels, cross drains, and drainage structure inlets and outlets shall be designed to be stable by use of flat grades or linings, as per Pacific Basin standard, Lined Waterway or Outlet, (468). Chapters 3, 7, 9, and 14 of the EFH shall be used in the design of water management features. Water breaks or bars may be used on low intensity use forest or similar roads.

Surfacing. Access roads shall be given a wearing course or surface treatment if required by traffic needs, climate, erosion control, or dust control. The type of treatment depends on local conditions, available material, and the existing road base. If these factors or the volume of traffic is not a problem, no special treatment of the surface is required.

Unsurfaced roads may require controlled access to prevent damage or hazardous conditions during adverse climatic conditions.

Toxic, acid-forming materials, or used motor oil shall not be used on roads. This should not be construed to prohibit use of chemicals for dust control.

Traffic Safety. Passing lanes, turnouts, guide-rails, signs, and other facilities as needed for safe traffic flow shall be provided. Traffic safety shall be a prime factor in selecting the angle and grade of the intersection with public highways. Preferably, the angles shall not be less than 85 degrees. The public highway shall be entered either at the top of a hill or far enough from the top or a curve to provide visibility and a safe sight distance. The clear sight distance to each side shall not be less than 100 meters (305 ft), if site conditions permit. Local regulations may require permits for access to highways. If so guidance from the regulatory authority should be sought before design, and then permits applied for only after designs are approved and finalized.

Erosion Control. Roadbanks and disturbed areas shall be vegetated as soon as possible and skid trails, landings, logging, and similar roads shall be vegetated after harvesting or seasonal use is completed. If the use of vegetation is precluded and protection against erosion is needed, protection shall be provided by non-vegetative materials such as gravel or other mulches.

PLANS AND SPECIFICATIONS

Plans and specifications for constructing the access roads shall be in keeping with this

standard and shall describe the requirements for applying the practice to achieve the intended purpose.

Preliminary to developing design and construction plans appropriate survey data must be obtained. Such data will include sufficient points to develop and show road alignment, profiles, cross sections, locate physical features (drainages, trees, rocks, etc.), structural details required (culverts, etc.), and location of spoil and borrow areas that will affect construction. All survey will be in accordance with Chapter 1 of the EFH Chapter 1 and Technical Reference 62.

Watercourses and water quality shall be protected during and after construction by erosion control details which might include the associated Pacific Basin practices of Filter Strip (393), Critical Area Planting (342), Mulching (484), or Water and Sediment Control Basin (638). Additionally, the use of silt fences or staged construction may be required.

Construction plans shall include a plan view to scale, typical road section, and profile of the centerline of the road as a minimum. If other conservation practices are to be included in the project for water management and water quality concerns, then the plans will include the information necessary to construct those practices. Development of construction plans will be guided by Engineering Field Handbook Chapter 5.

Construction specifications will need to address the removal of trees, stumps and large rocks when the site investigation has revealed their presence. The disposal of undesirable material will be either specified or shown on the construction drawings. Grading, sub-grade preparation, and compaction of fill material, when part of the project, will need to be either communicated in the construction specifications or carried on the construction drawings in the form of construction notes.

As-Built Plans. As-Built plans shall re lect all significant changes in alignment, cross section, structure location, etc. It is expected that all changes will be with the prior consent of the individual approving the design. If there were no changes, the original drawings shall be marked, "AsBuilt."

OPERATION AND MAINTENANCE

Operation instructions should outline the use level (traffic volume) and maximum vehicle size for which the access road is designed. Recommendations for alternating vehicle position during travel over the road, (to distribute wear across the complete tread width), shall be included.

This practice may adversely affect cultural resources. Planning, installation and maintenance must comply with GM 420, Part 401.

Maintenance requirements that shall be communicated in writing to the cooperator are the nature, timing and expected frequency of activities. Required maintenance will include the need for timely treatment of, pot holes, ruts, puddles, and spot failures in wear surfaces, and brief guidance on how to carry out the repairs. The required maintenance (mowing, fertilizing, surface inlet cleaning, etc.) of associated practices such as vegetation, surface and subsurface water management features is also to be included. Guidelines for repair of features damaged by heavy rainfall or other less frequent events should be included, as well as instructions to contact the NRCS office if unanticipated problems arise.